Notebook Computer

M620-DC/ M620-UC

User's Guide

NOTICE

Specifications and information found in this guide are subject to change **without** notice. Any changes therefore will be incorporated in future editions. The manufacturer assumes **no** responsibility for errors or omissions in this document.

TRADEMARKS

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Standards

The following standards are adopted throughout this guide:

- Notebook in **boldface** (with or without capitalization) refers to the notebook computer that you have purchased.

- **Boldface** type is also used to highlight **important information** in this document.

- The messages that appear on the **Notebook** screen will be boxed when they are referenced.

- Whenever extra caution is called for, the information will be boxed in a dark frame preceded by "**Note:**" or "**Warning:**"

- Usually after performing a step-by-step instruction, you will be asked to:

  Press the **Esc** key

  Which means you should press the Esc key located at the upper left-hand corner of the keyboard.

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Chapter 1 Before You Begin

Please read this section before you start using your computer.

1.1 Checking What You Received

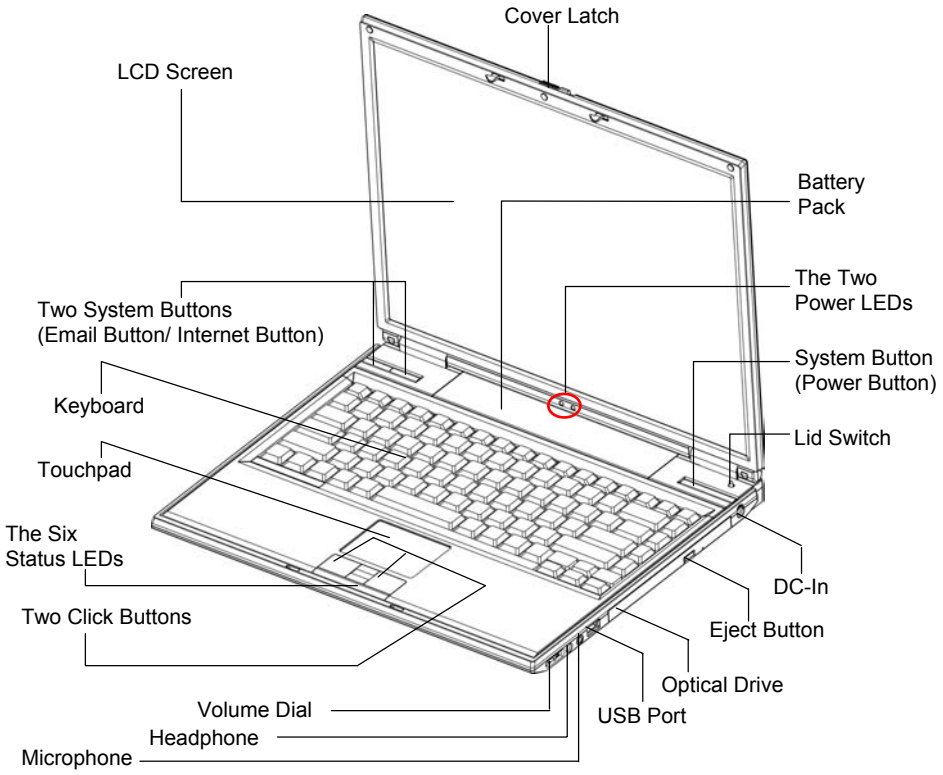
Your **notebook** package should contain the following items:

- **The Notebook**.
- AC Adapter.
- AC Power Cord.
- CD Disc (Including Drivers and User's Guide).
- Battery Pack.

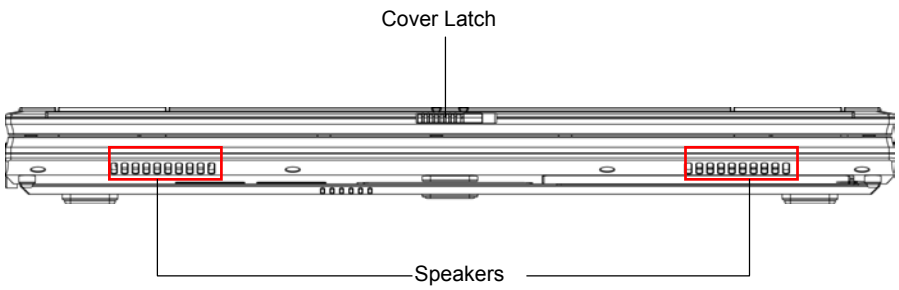
Note: You should keep the original factory carton and packing materials in case you need to ship the unit back for servicing.

1.2 Examining Your Computer

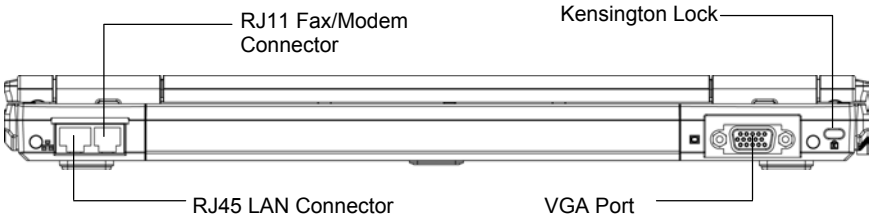
Before you start using your computer, you need to get acquainted with your **notebook**'s main features and interfaces:



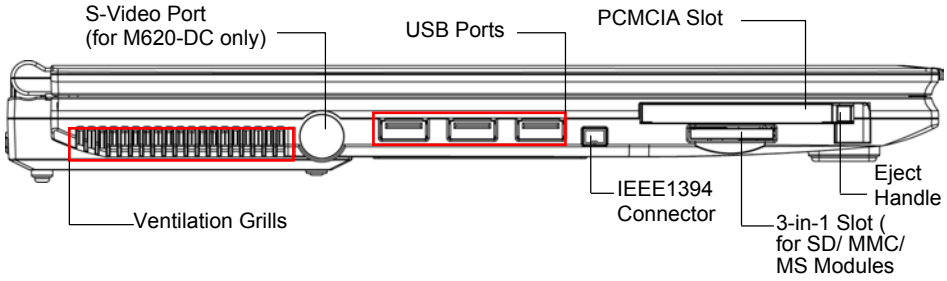
Panoramic View



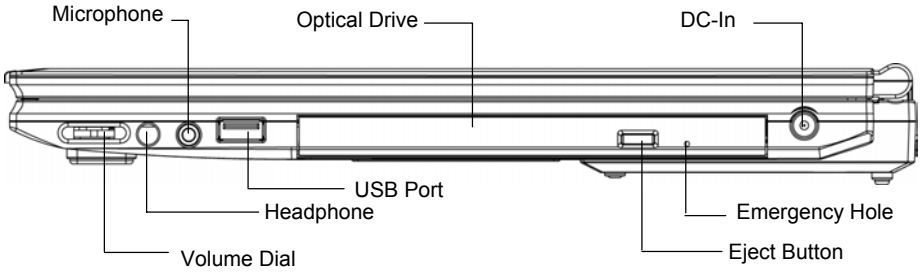
Front View



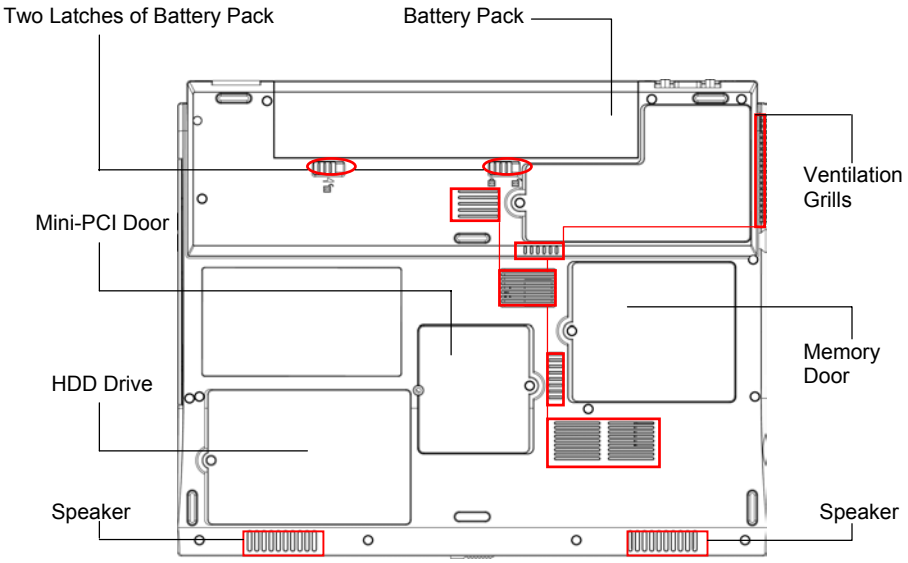
Rear View



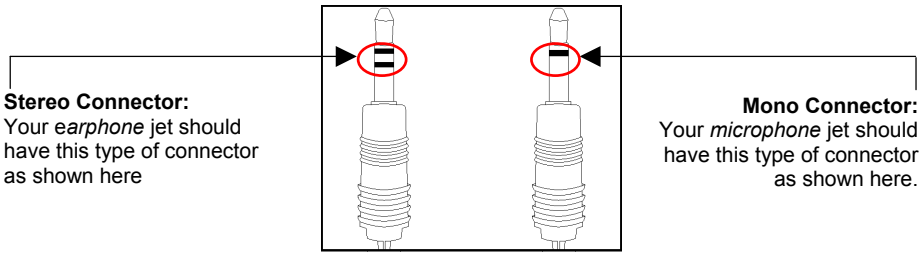
Left View



Right View



Bottom View


Stereo Connector:
Your e*arphone* jet should have this type of connector as shown here
Mono Connector:
Your *microphone* jet should have this type of connector as shown here.

Two Types for Audio Jet

1.3 The Two Power LEDs

The Power On LED

Below is how the LED would behave in different situations:

Off	System is powered off, or in **Hibernate** mode.
On	System is in full operation.
Blinking	System is in **Standby** mode.

The Battery Pack LED

Below is how the LED would behave in different recharge situations:

On	Battery pack is being recharged: fast-charge or pre-charge.
Blinking	• Battery pack error. • Battery pack is consuming down to 10% level.
Off	Battery pack is not under recharge.

Note: The **Two Power LEDs** are located at the bottom LCD display screen between the left/right hinges of the LCD display panel. For exact location, please refer to the **Panoramic View** diagram in *Chapter 1.2*.

For more details on **Standby** and **Hibernate**, please refer to **Power Options** (for Windows Systems) in the **Control Panel** of your Microsoft Windows operating system.

1.4 The Six Status LEDs

The HDD/ODD Access LED
This LED would be lit when system is accessing the HDD drive or ODD drive.

The AC-Adapter LED
This LED would be lit when system is connected to an AC adapter.

The Wireless LED
This LED would be lit when the wireless function is activated.

The Num Lock LED
This LED would be lit when the keyboard is in **Num Lock** mode. In this mode, the embedded numeric keypads can be used.

The Scroll Lock LED
The LED would be lit when the keyboard is in **Scroll Lock** mode. In this mode, you can lock the cursor position while scrolling through a document with the arrow-scroll keys

The Caps Lock LED
The LED would be lit when the keyboard is in **Caps Lock** mode. In this mode, all characters you type are in uppercase.

Note: The **Six Status LEDs** are located near the two click buttons. For exact location, please refer to the **Panoramic View** diagram in *Chapter 1.2*.

1.5 The Three System Buttons

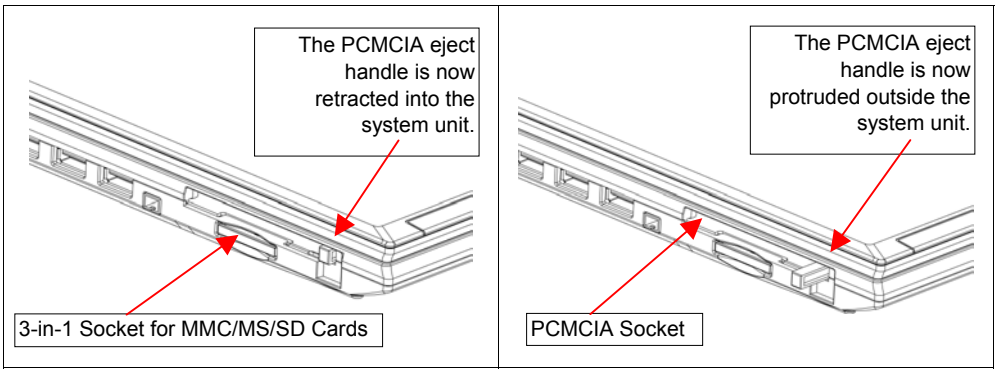
The Power Button
This **Power Button** is programmable by user. For detail on how to program this button, please refer to the **Power Options** of **Control Panel** in **Windows System.**

Internet Button
Press this button to activate the internet function.

Email Button
Press this button to activate the email function.

Note: The **Three Buttons** are located between the LCD display and the keyboard. For their exact locations, please refer to the **Panoramic View** diagram in *Chapter 1.2*.

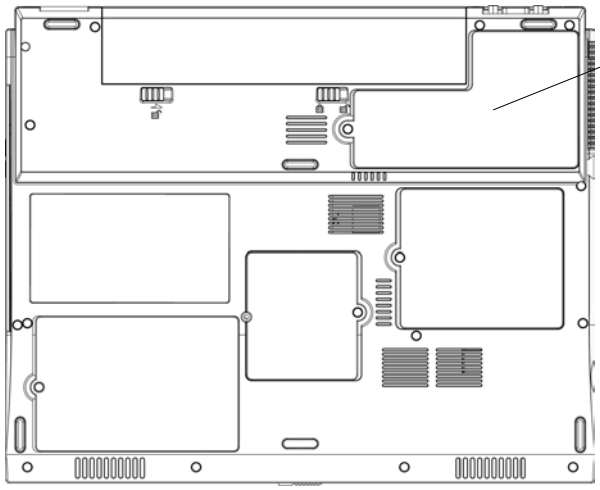
1.6 Attention On PCMCIA And 3-In-1 Sockets


The PCMCIA eject handle is now retracted into the system unit.
3-in-1 Socket for MMC/MS/SD Cards
The PCMCIA eject handle is now protruded outside the system unit.
PCMCIA Socket

Please observe below safety measures:

- Make sure the PCMCIA eject handle does not protrude out at all times, unless you are using the handle to eject PCMCIA card. A protruded handle is prone to external interference; such as ramming by an inkjet printer or external keyboard.
- When PCMCIA card is not inserted into the PCMCIA socket, make sure this socket is covered by the “PCMCIA socket door” as supplied together with this **notebook**. The purpose of this “PCMCIA socket door” is to prevent foreign matters from entering into the system unit through this socket, when PCMCIA card is not inserted.
- When no card (Multi-Media Card/Memory Stick Card/SD Card) is not inserted into the 3-in-1 socket, make sure this socket is covered by the “3-in-1 socket door” as supplied together with this **notebook**. The purpose of this “3-in-1 socket door” is to prevent foreign matters from entering into the system unit through this socket, when no card is inserted.

1.7 Technical Warning



Warning: This sealed compartment door as indicated above is designed to be opened by qualified technicians only. Therefore, you are requested not to open this compartment door. Opening this compartment door would void the warranty of your **notebook**.

Chapter 2 Keyboard

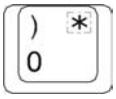
The **notebook** features an enhanced keyboard that incorporates the functions of a full-featured desktop keyboard. An embedded numeric keypad, accessed via the **NumLock** key is included. The screen control keys are conveniently located near the lower right corner of the keyboard.

Keyboard Layout

2.1 General View

The keyboard has a total of 86 keycaps, including 2 Windows keys. Some keycaps have multiple symbols on them. Their functions can be accessed via different key combinations:

EXAMPLE:



To access the "**0**", press the key only.
To access the "**)**", press the **Shift** key and the key.
To access the "*****", press the **Fn** key first. Then press the **NumLock** key.

F2, **F3**, **F4**, **F7**, **F8**, **F9**, **F10**, **F11**, and **F12** keys are Function Keys.

Caps Lock Key:

When the **Caps Lock** indicator light is on, the letters are typed in uppercase. When the **Caps Lock** indicator light is off, all letters are typed in lowercase.

Print Screen Key:

By pressing the **Prt Sc** key, the characters or text shown on the screen will be printed on your printer.

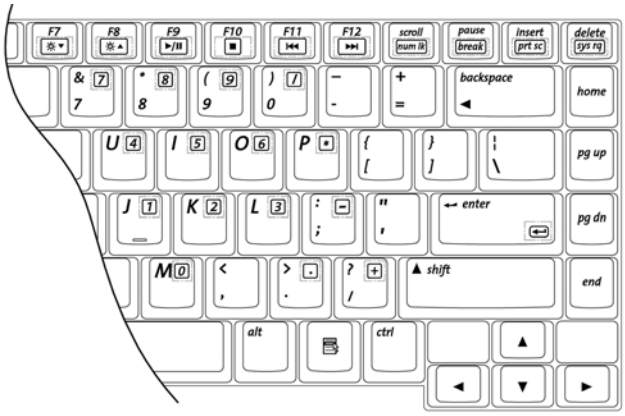
Warning: Don't press the **Prt Sc** key unless a printer is connected to the **notebook**. Otherwise the system may hang.

2.2 The Embedded Numeric Keypad

The figure below shows the embedded numeric keypads can be activated or de-activated by pressing the **num lk** key and **Fn** key simultaneously.

Num Lock Key:

The **num lk** key which is located near the upper right corner of the keyboard is printed in blue color, and the keys on the embedded numeric keypad are also in blue color.



2.3 The <Fn> Key

The <**Fn**> Function Key is located near the bottom-left corner of the keyboard. This key is used together with other keys to activate certain pre-defined functions. To activate these functions, press and hold down **<Fn>** together with the keys described below:

Wireless Switch
Press this key function combination (*Fn+F2*) to switch off and to switch on the wireless communication function.

Sleep Switch
Press this key combination (*Fn+F3*) to enter sleep mode. In sleep mode, the LCD display and selected devices would be switched off for less energy consumption.

LCD/CRT Switch
Press this key function combination (*Fn+F4*) to switch between LCD only, CRT only, and LCD/CRT simultaneously.

Brightness Decreasing
Press this key combination (*Fn+F7*) to decrease brightness of LCD display.

Brightness Increasing
Press this key combination (*Fn+F8*) to increase brightness of LCD display.

CD Play/Pause
Press this key function combination (*Fn+F9*) to play or pause audio CD disc playback.

CD Stop
Press this key combination (*Fn+F10*) to stop audio CD disc playback.

CD Previous Track
Press this key combination (*Fn+F11*) to skip to the previous CD disc track.

CD Next Track
Press this key combination (*Fn+F12*) to skip to the next CD disc track.

2.4 Other Keys

The Ctrl (Control) Key:

Both **Ctrl** keys have the same function. Holding down the **Ctrl** key together with another key can activate certain functions of an application program, such as **Excel** or **Word**.

The Alt (Alternate) Key:

Both **Alt** keys have the same function. Holding down the **Alt** key together with another key can activate certain functions of an application program, such as **Excel** or **Word**.

The Windows Key ( ):

This Windows key has the same function as selecting the **START** icon in **Windows Operating Systems**.

The Windows Key ( ):

This Windows key has the same function as clicking the right mouse button, when in **Windows Operating Systems**. This key can activate certain functions of an application program, such as **Excel** or **Word**.

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Chapter 3 Battery

3.1 Battery Pack

Your **notebook** is equipped with a high energy rechargeable **Lithium Ion** (**Li-Ion**) battery pack. In general, a fully charged battery pack can support around 4.0~5.0 hours of operation, with Windows' Power Management option enabled. However, difference in configuration (CPU, HDD, Memory etc.) and system utilization (especially I/O activities) can affect the operation time greatly.

3.2 Recharging the Battery Pack

Your **notebook** supports both on-line and off-line recharge. Follow the procedure below to recharge battery:

- Make sure the battery pack is installed in the **notebook**.
- Connect the AC adapter to the **notebook** and to an electrical outlet.

When a battery pack is being recharged, its battery LED (located at the bottom of display panel) would be lit in amber color. For details on the LEDs, please refer to *Chapter 1.3*. When the notebook is OFF, a depleted Li-Ion battery will take three hours to recharge.

3.3 Questions and Answers

Q: I can feel the heat next to the **TouchPad** during recharge. Is it normal?

A: The battery will generate heat during recharging and discharging. There is a protection circuit inside the **notebook** to prevent overheating. User needs not to worry.

Q: My battery operation time is not as long as it should be. Why?

A: The battery is heat sensitive and can only be charged to its maximum if the battery and its environmental temperature remain within 15-25°C (59-77°F). The more the temperature deviates from this range during recharging, the less chance there is for the battery to be fully charged. In order to recharge the pack to its full capacity, users are requested to cool down the unit by unplugging the AC Adapter. Wait until it is cooled down. Then plug in the AC Adapter to start recharging again.

Q: I did not use my spare battery for a few days. Even though it was fully recharged, there wasn't as much power left as a newly charged one. Why?

A: The batteries will self-discharge (1% per day for Li-Ion) when they are not being recharged. To make sure a battery pack is fully charged, recharge before use. Always keep the battery inside the **notebook** and have the AC adapter connected whenever possible.

Q: I did not use my spare battery for months. I have problem in recharging it.

A: If you happen to leave your battery pack to go through an extended period of self-discharge, say more than three months, the battery voltage level will become too low and needs to be **Pre-Charged** (to bring the battery voltage level high enough) before it automatically (for Li-Ion only) resumes its normal **Fast Charge**. **Pre-Charge** may take 30 minutes. **Fast Charge** usually takes 2~3 hours.

3.4 Battery Maintenance

To maintain the battery pack's maximum capacity, you should occasionally let the **notebook** deplete its battery power completely before recharging.

To carry out a complete depletion of the battery, disconnect the AC adapter and let your **notebook** consume the remaining battery power. To speed up the depletion, use the HDD as much as possible, and the LCD should be set as bright as possible. When the battery is empty, wait for the **notebook** to cool down (especially the battery). The temperature should be within 15-25°C (59-77°F). Then insert the AC adapter to recharge the battery.

3.5 Power Consumption

The **Windows® XP**, the latest Windows operating systems, has incorporated the latest state-of-the-art **ACPI (Advanced Configuration Power Interface)** power management methodology. In order to fully utilize the power of your battery packs, it would be a good idea for you to spend sometime to acquire a basic understanding of the power management concept from your operating system.

In **Windows® Operating Systems**, you can go through **Power Options** of the **Control Panel** according to the version of **Windows® Operating System** the **notebook** applies. We shall not describe them in details. The **Power Options** in **Windows® XP** are further divided into as below:

- Power Schemes
- Alarms
- Power Meter
- Advanced
- Hibernate

3.6 Reducing Power Consumption

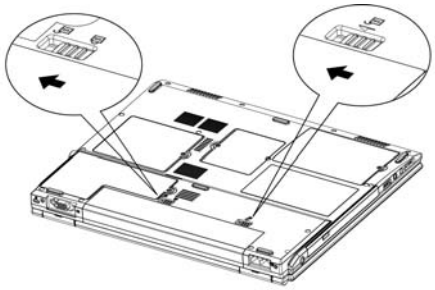
Although your **notebook** (together with the operating system) is capable of power conservation, there are measures you can take to reduce the power consumption:

- Use the AC power whenever possible.
- Lower the intensity of the LCD backlight. A very bright screen translates to higher power usage.
- Try to use the HDD or the PCMCIA drive to read and write files, instead of using the external USB FDD.

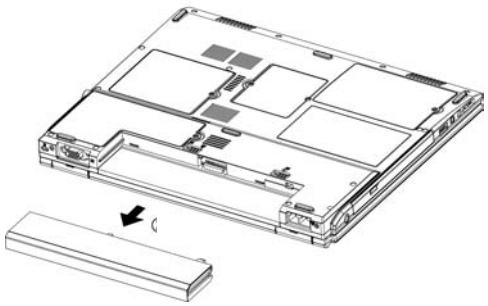
Note: When system is powered on, make sure the battery pack is installed in the battery pack compartment.

3.7 Removing The Battery Pack

This battery pack can easily be removed and replaced. Make sure that the computer is properly shutdown before changing the battery pack. If you would like to change the battery pack while power is on, make sure this battery pack is not the only electrical source to the system unit. Follow the steps below to remove the battery pack.



- Make sure the system is properly shutdown.
- Flip the system upside down.
- Push the two battery latches to the unlock position as shown.



- Maintain the two battery latches in the unlock position.
- Remove the battery pack as shown.

To insert the battery pack, reverse the steps above.

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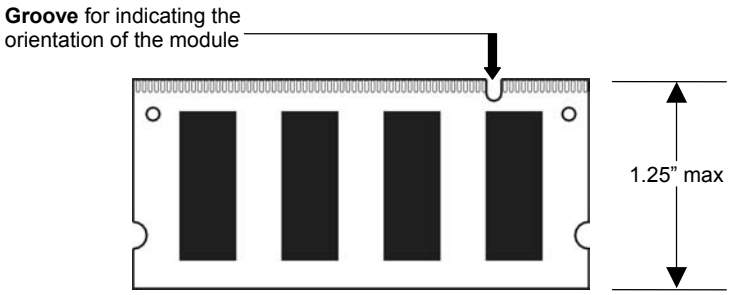
Chapter 4 Memory

Your **notebook** is equipped with a configurable memory unit. The two industry standard **DDR S.O.DIMM** memory module sockets are available for memory upgrade to 2048MB. These two memory sockets are located on the bottom side of the system unit. The table below illustrates all the possible ways system memory can be configured.

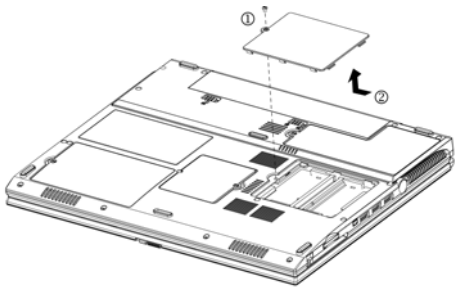
T tal Memory	Socket#1	Socket#2
256MB	256MB	0MB
256MB	0MB	256MB
512MB	512MB	0MB
512MB	256MB	256MB
512MB	0MB	512MB
768MB	512MB	256MB
768MB	256MB	512MB
1024MB	1024MB	0MB
1024MB	512MB	512MB
1024MB	0MB	1024MB
1280MB	1024MB	256MB
1280MB	256MB	1024MB
1536MB	1024MB	512MB
1536MB	512MB	1024MB
2048MB	1024MB	1024MB



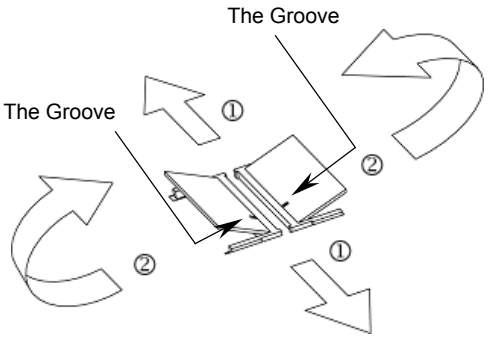
DDR S.O. DIMM Memory Module

4.1 Removing Memory Module

Below is the procedure on how to remove the memory module.



- Make sure the system is properly shutdown.
- Flip the system upside down.
- Remove the screw as shown by ***#1***.
- Slide and remove the compartment door as shown by ***#2***.



- Press the spring-locks sideways as shown by ***#1***.
- The memory module would pop up as shown by ***#2***.

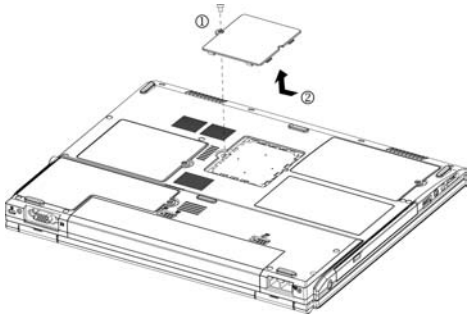
To insert the memory module, reverse the steps above.

Chapter 5 Mini-PCI Module (Optional)

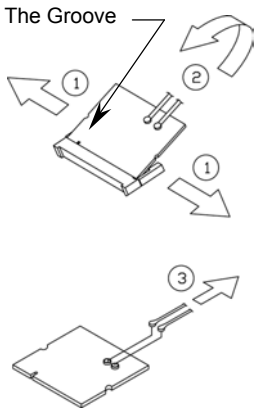
Your **notebook** is equipped with an optional Mini-PCI module. The Mini-PCI supports wireless LAN function.

5.1 Removing Mini-PCI Module

Below is the procedure on how to remove the Mini-PCI module.



- Make sure the system is properly shutdown.
- Flip the system upside down.
- Remove the screw as shown by ***#1***.
- Slide and remove the compartment door as shown by ***#2***.



- Press the spring locks sideways as shown by ***#1***.
- The Mini-PCI module would pop up as shown by ***#2***.
- Disconnect the two cables as shown by ***#3***. Note, there are two types of mini-PCI module. Externally, they look slightly different; especially on the locations of the cable connections

To insert the Mini-PCI module, reverse the steps above.

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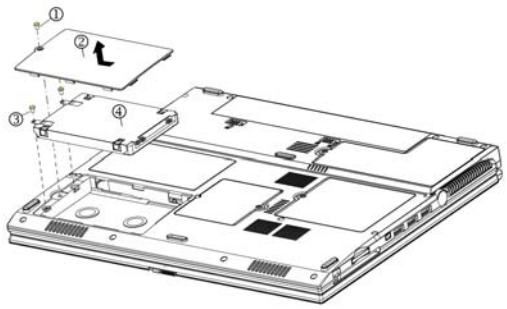
Chapter 6 The Hard Disk Drive

Your **notebook** is equipped with an industry standard 2.5”/9.5mm hard disk drive.

6.1 Removing The Hard Disk Drive

Below is the procedure on how to remove the hard disk drive.



- Make sure the system is properly shutdown.
- Flip the system upside down.
- Remove the screw as shown by ***#1***.
- Slide and remove the HDD compartment door as shown by ***#2***.
- Remove the two screws as shown by ***#3***.
- Remove the HDD drive as shown by ***#4***.

To insert the HDD drive, reverse the steps above.

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Chapter 7 Peripherals

You can connect a great variety of accessories to your **notebook** ports. Each port will be described below.

7.1 VGA Connector

Using this connector, you can connect the system to **VGA** or **Super VGA** Monitor (CRT) to the standard 15-pin D-type **VGA Connector**. The **notebook** has the capability to display the LCD and the external Monitor (CRT) at the same time.

7.2 PCMCIA Port

The **PCMCIA** slot gives you a wide variety of connection to different options such as: Fax/Modem, Flash Memory, SCSI Adapter, LAN connection, HDD, and etc.

7.3 USB Connector

Using this connector, you can connect the system to a great variety of industry standard USB devices, including the nowadays more popular USB mouse, USB CD-ROM, USB FDD, USB keyboard, digital camera, and others.

7.4 SPDIF-Out Headphone Connector

Using this connector, you can connect the system to a SPDIF-out headphone.

7.5 IEEE1394 Connector

Using this connector, you can connect the system to equipment that supports this industry standard interface.

7.6 RJ11 Fax/Modem Connector

This connector allows you to connect your **notebook** to the public telephone network for various applications such as: Internet, facsimile machine emulation, and telephone answering machine functions.

7.7 RJ45 Ethernet LAN Connector

This connector allows you to connect your **notebook** to the **LAN** (**Local Area Network**).

7.8 S-Video Connector (For DC Series Only)

Using this connector, you can connect the system to a TV or CRT that has a S-Video in connector.

Appendix A - Glossary

ACPI **A**dvanced **C**onfiguration **P**ower **I**nterface. The latest power management standard is developed through Microsoft, Intel, and Toshiba.

APM **A**dvanced **P**ower **M**anagement. An operation and application level for power management. Your **notebook** is fully compatible with this standard.

BIOS **B**asic **I**nput **O**utput **S**ystem. In the guide, we refer the BIOS as Setup. To change the BIOS, press <**F2**> during system re-boot up.

BIT A binary digit. The smallest unit of measure used in a computer. It takes 8 bits to make a byte.

Bluetooth **Bluetooth** is a device with short-range radio between wireless phones, mobile and stationary PCS, and peripheral devices.

BOOT To load a program or operating system into the memory to start the computer.

BUS Electrical circuit within the system used to transmit data from one device to another.

BYTE 8 bits are called 1 byte. 1,024 bytes are called 1KB. A million bytes are a megabyte, or MB.

CACHE A place in the CPU where the computer can temporarily store data to avoid accessing the HDD and FDD drives. There is also an external on-board 512KB fast write-through CACHE in your **notebook** to improve performance.

CD-ROM **C**ompact **D**isc-**R**ead **O**nly **M**emory. It stores up to 640MB of information per disc.

CMOS **C**omplementary **M**etal-**O**xide **S**emi-conductor. This low-power consumption module is capable of keeping the BIOS setup even the **notebook** is powered off.

CPU **C**entral **P**rocessing **U**nit. Your **notebook** is compatible with Pentium® CPUs.

CRT **C**athode **R**ay **T**ube. Another name is for an external monitor.

DMA **D**irect **M**emory **A**ccess. Your **notebook** supports two DMA's and both can be used.

DOS **D**isk **O**perating **S**ystem.

DRAM **D**ynamic **R**andom **A**ccess **M**emory, also known as **RAM**.

DSTN **D**ual**s**can **T**wist **N**eu-matic. Double the performance compared to STN, but less than TFT. **DSTN** is also known as Dual-Scan color.

ECP **E**xtended **C**apabilities **P**ort. This bi-directional communication mode is faster than EPP, and SPP modes. And ECP allows the system to connect up to seven devices through parallel interface.

EPP **E**nhanced **P**arallel **P**ort. This bi-directional communication mode is faster than the SPP, but slower than the ECP mode.

FDD **F**loppy **D**iskette **D**rive. You can use any 3.5" diskette that has a storage capacity of 1.44MB or 720KB.

FORMAT Prepare a disk (floppy disk or HDD) for use in an OS. **Format**ting erases all the information on the disk.

HDD **H**ard **D**isk **D**rive.

HIBERNATION mode, or **Suspend To Disk** mode, saves all memory, so system can re-start at where **Suspend To Disk** was invoked.

IDE **I**ntegrated (or **I**ntelligent) **D**rive **E**lectronics. Standard HDD type that used in **notebook**s.

I/O **I**nput/**O**utput. It is used for different kind of communications between devices.

IRQ **I**nterrupt **R**equest. Every device has an IRQ number. If two devices share the same number, there will be a conflict and then none of the devices will work.

IrDA **I**nfra**r**ed **D**ata **A**ssociation, a standard for infrared ray data transmission.

ISA **I**ndustry **S**tandard **A**rchitecture. A standard for 8-bit and 16-bit expansion cards. This standard is also referred as AT-bus. The speed on the bus is 8MHz.

KB **K**ilo **B**yte (1024 bytes).

LAN **L**ocal **A**rea **N**etwork. A group of computers connected together to share information and resources. There are many different standards for LAN: ETHERNET, Token Ring, etc.

LCD **L**iquid **C**rystal **D**isplay. A common name is for your **notebook** screen.

Local-Bus The speed of Local-Bus is vastly superior to the AT-Bus (8MHz).

MB **M**ega **B**yte (1 million bytes).

Mouse A pointing device to move your cursor under certain software, such as Windows, and OS/2.

MPEG **M**otion **P**icture **E**xperts **G**roup. It supports real-time, full-motion video, audio data compression and decompression.

OS **O**perating **S**ystem. There are many different types: MS-DOS, Windows, OS/2, UNIX, etc.

PARTITION A logical unit created on the HDD, which is seen to the OS as a separate drive.

PCI **P**eripheral **C**omponent **I**nterconnect. The **PCI** specification allows for multiplexing, a technique that permits more than one electrical signal to be present on the bus at one time.

PIXEL Image elements (small points) that compose a screen image.

PCMCIA **P**ersonal **C**omputer **M**emory **C**ard **I**nternational **A**ssociation. A small credit-card size accessory that can contain memory, Fax/ Modem, SCSI adapter, etc… Also known as PC card.

POST **P**ower-**O**n-**S**elf-**T**est. Every time you power on the **notebook**, **POST** runs many different tests to insure the system will operate properly.

RAM **R**andom **A**ccess **M**emory. See **DRAM**.

ROM **R**ead **O**nly **M**emory. This memory contains the BIOS where all the information about your **notebook** is stored.

SPP **S**tandard **P**arallel **P**ort. This bi-directional communication mode is slower than EPP and ECP modes. Also see EPP and ECP.

TFT **T**hin **F**ilm **T**ransistor. The speed and resolution is better than the **DSTN** display. **TFT** is also known as Active Matrix.

TouchPad A pointing device that uses your finger to glide the cursor.

UART **U**niversal **A**synchronous **R**eceiver/**T**ransmitter. The UART is compatible to NS16550. Used for high-speed serial port connections.

VGA **V**ideo **G**raphics **A**rray. A standard is for 640x480 resolution. Most computers have higher resolution: 800x600 or 1024x768 (SVGA).

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Appendix B - Error Log

Your Name :_____
Phone # :_____
Fax # :_____

Tested System Name: _____ S/N: _____ Date:200_- __- __
CPU: _____
Memory: _____
Display: ☐ TFT ☐ DSTN ☐ CRT ☐ LCD+CRT ☐ _____
HDD: _____MB Manufacturer:_____ ☐Model _____
Revisions: ☐ BIOS _____ ☐ VGA _____ ☐ PCMCIA _____ ☐ Utility _____
OS: ☐ WinXP___ ☐ Other _____

Peripherals Attached:
Sound Card:☐Enabled ☐DMA_____ ☐IRQ____ ☐Ext.Micro.___ ☐ _____
☐ Internal Fax/Modem ☐Mouse_____ ☐Printer _____

PCMCIA card: ❶ Network ❷ Fax/Modem❸ Memory ❹ _____
☐ PCMCIA Card Type:___ Name: _____Revision: ____IRQ___ DMA_____
☐ PCMCIA Card Type:___ Name: _____Revision: ____IRQ___ DMA_____

Software where problem occurs:

Name: _____ Rev.: _____ Error Message: _____

Following pages attached: (screen copies or listings)
☐ Config.sys ☐ Autoexec.bat ☐ Advanced BIOS setup
☐ Power Management Setup

If you have any problems with your **notebook**, especially with software or hardware compatibility we would like to hear from you so we can maintain 100% compatibility. Therefore if you find any problem, please fill-out this report and fax to your local dealer for technical support.

If you have tried many different settings or configurations, like IRQ, DMA, LCD or CRT, mark all of them so that we can repeat the problem under the same configuration(s).

Attach another page with detail description of your problem or use the backside.

Your cooperation is most appreciated!

Problem description:

_____

_____

_____

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Appendix C- Agency Regulatory Notices

C.1 Safety Instructions

CAUTION: Please read these safety instructions carefully.

CAUTION: Please keep this User's Manual for future reference.

CAUTION: Please disconnect this equipment from AC outlet before cleaning. DO NOT use liquid or sprayed detergent for cleaning. Use a clean moistened cloth.

CAUTION: The wall socket used should be positioned near the equipment and should be easily accessible.

CAUTION: Please keep this equipment free from humidity.

CAUTION: Place the equipment on a reliable surface at all times. A drop or fall can cause severe damage.

WARNING: The openings of the enclosure are for air ventilation and are meant to protect the equipment from overheating. DO NOT COVER THE VENTILATION OPENINGS.

CAUTION: Verify the voltage of the power source before connecting the unit to any power outlet.

WARNING: DO NOT step on or place anything over the power cord.

CAUTION: All cautions and warnings on the equipment should be noted.

WARNING: If the equipment is not used for a long period of time, disconnect the equipment from the power source to avoid damage from power spikes.

WARNING: NEVER pour any liquid into any openings; a fire or electrical shock is possible.

WARNING: For safety reasons, other than pre-designated ports, doors, and the equipment should be opened only through qualified service personnel.

CAUTION: If one of the following situations should arise, the equipment should be checked by an authorized technician:

a. The power cord or plug is damaged.
b. Liquid has penetrated into the equipment.
c. The equipment has been exposed to excessive moisture.
d. The equipment does not work well, or you fail to get it to work according to user's manual.
e. The equipment has been dropped or damaged.
f. The equipment has obvious signs of breakage.

CAUTION: DO NOT LEAVE THE EQUIPMENT IN TEMPERATURES BELOW -20°C(-4°F) OR ABOVE 60°C(140°F). IT MAY CAUSE DAMAGE TO THE EQUIPMENT.

WARNING: Never install modem/telephone wiring during a lightning storm.

WARNING: Never install modem/telephone jacks in wet locations unless the jack is specially designed for wet locations.

WARNING: Never touch un-insulated modem/telephone wires or terminals unless the modem/telephone line has been disconnected at the network interface.

CAUTION: Use caution when installing or modifying modem/telephone lines.

WARNING: Avoid using a modem/telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

WARNING: This computer contains an internal lithium battery-powered real-time circuit. There is a risk of explosion and injury if the battery is incorrectly replaced or handled. Do not attempt to recharge, disassembled, immerse in water, or dispose of it in fire. Replacement should be done through your notebook dealer.

WARNING: THE **CD-ROM/DVD-ROM** IN THIS **NOTEBOOK** EMPLOYS A **LASER** SYSTEM.

a. To ensure proper use of this product, please read the relevant instructions carefully and retain for future reference.
b. Should the unit ever require maintenance, contact your local dealer.
c. Use of controls, adjustments or the performance of procedures other than those specified may result in hazardous radiation exposure.
d. To prevent direct exposure to Laser Beam, do no try to open the enclosure.

CAUTION: The internal CD-ROM/DVD-ROM drive is classified as a **CLASS 1 LASER PRODUCT**. Label is located on the outside of the CD-ROM/DVD-ROM drive with the following wordings:

CLASS 1 LASER PRODUCT
KLASSE 1 LASER PRODUKT

WARNING: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. Explosionsgefahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

WARNING: Your notebook contains a Ni-MH or Li-Ion battery pack. There is a risk of fire and chemical burn if the battery pack is handled improperly. Do not disassemble, crush, puncture, short external contact, dispose of in water or fire, or expose it to temperature higher than 60°C.

WARNING: Handle the battery pack very carefully. Avoid touching the metal leads on the connector of the battery case.

CAUTION: Use only approved AC Adapter with your notebook. Using the wrong type of AC Adapter may cause serious damage to your notebook.

CAUTION: The AC Adapter can accept a line voltage ranging from 100V to 240V and is compatible with most international power sources. If you are unsure whether your power source is compatible, please contact the local dealer for assistance.

CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

CAUTION: For Continued Protection Against Risk of Fire, Replace Only with same Type and Rating of Fuse.

CAUTION: If the computer is not sold to German area, please use only the local recognized power supply cords that are recommended by the manufacturer.

D.2 Agency Notice

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by the manufacturer responsible for compliance may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis Canadien

Cet appareil numerque de la classe B respecte toutes les exigences du Reglement sur le materiel brouilleur du Canada.

FCC RF Radiation Exposure Statement

- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- This equipment complies FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

European Union Notice

Product with the CE Marking comply with the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community and if this product has telecommunication functionality, the R&TTE Directive (1999/5/EC).

Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards and regulations):

- EN55022 (CISPR 22)— Electromagnetic Interference
- EN55024 (IEC61000-4-2,3,4,5,6,8,11)— Electromagnetic Immunity
- EN61000-3-2— (IEC61000-3-2)-Power Line Harmonics
- EN61000-3-3— (IEC61000-3-3)-Power Line Flicker
- EN60950 (IEC60950) — Product Safety

For devices with built-in wireless equipment, the following additional standards apply:

- ETSI301489-17: General Emissions for Radio Equipment
- EN60950: Safety
- ETSI300328-2: Technical Requirements for Radio Equipment

Japanese Notice

本装置は、第二種情報装置（住宅地域またはその隣接した地域において使用されるべき情報装置）で住宅地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）基準に適合しております。
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U.S. Regulations Governing the Use of Modems

This equipment complies with Part 68 of the FCC Rules. On this equipment is a label that contains, among other information, the FCC registration number and **R**inger **E**quivalence **N**umber (**REN**) for this equipment. You must, upon request, provide this information to your telephone company.

If your telephone equipment harms the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a compliant with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect proper operation of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

The FCC prohibits this equipment to be connected to party lines or coin-telephone service.

In the event that this equipment should fail to operate properly, disconnect the equipment from the phone line to determine if it is causing the problem. If the problem is with the equipment, discontinue use and contact your dealer or vendor.

The FCC also requires the transmitter of a FAX transmission be properly identified (per FCC Rules Part 68, Sec 68.381 (C) (3)).

Japanese Modem Notice

本製品を日本で使用する場合は必ず日本国モードでご使用ください。
他国のモードをご使用になると電気通信事業法(技術基準)に違反す
行為となります。なお、ご購入時は初期値が日本国モードとなってお
ますので、そのままご利用ください。

U.K. Modem Compliance Information

This modem is approved by the secretary of state at the **D**epartment of **T**rade and **I**ndustry for connection to a single exchange line of the public switched telephone network run by certain licensed public telecommunication operators or system connected there to (Direct exchange lines only, not shared service or 1-1 carrier systems).

This modem is also suitable for connection to **P**rivate **A**utomatic **B**ranch E**x**change (**PABX**), which return secondary proceeding indication.

If this modem is to be used with a PBX which has extension wiring owned by BT, connection of the modem the PBX can only be carried out by BT; or by the authorized maintainer of the PBX unless the authorized maintainer has been given 14 days written notice that the connection is to be made by another person; and that period of notification has expired.

This modem is suitable for use only on telephone lines proved with Loop Disconnect or Multi-Frequency Dialing Facilities.

Users of this modem are advised that the approval is for connection to the **PSTN** via the telephone line interface supplied with it. Connection of a modem to the **PSTN** by any other means will invalidate the approval.

There is no guarantee of correct working in all circumstances. Any difficulties should be referred to your supplier.

Some network operators require that intended users of their network request permission to connect and for the installation of an appropriate socket.

The **R**inger **E**quivalence **N**umber (**REN**) of this modem is 1. **REN** is guide to the maximum number of apparatus that can simultaneously be connected to one telephone line. The **REN** value of each apparatus is added together, and should not exceed 4. Unless otherwise marked, a telephone is assumed to have a **REN** of 1.

This modem is only approved for use of the following facilities:

- Storage of telephone numbers for retrieval by a predator mined code.
- Initial proceed indication detection.
- Automatic calling / automatic answering.
- Tone detection.
- Loud-speaking facility.

This modem is not approved for connection to U.K./private speech-band services. This modem does not support an automatic re-dial function. Any other usage will invalidate the approval of your modem, if as a result, it then ceases to confirm to the standards against which approval was granted. The approval of this modem is invalidated if the apparatus is

subject to modification in any material way not authorized by the **BABT** or if it is used with, or connected to external software that have not been formally accepted by **BABT**.

Appendix D- Specifications

D.1 Standard Features

SYSTEM

- Intel Pentium M CPU (1.4GHz/1.5GHz/1.6GHz/1.7GHz) with L1 64KB/L2 1MB or 2MB cache memory.
- Core Logic: 855PM (North Bridge) and ICH4-M (South Bridge) for M620 DC Series.
  855GME (North Bride) and ICH4-M (South Bridge) for M620 UC Series.
- Two DDR S.O. DIMM memory sockets for system memory upgrade. Total memory: 2048 MB (2GB).
- 512KB Flash ROM contains BIOS and is easily user upgradeable.

DISPLAY

- Default video memory 64MB.
- 15" XGA TFT LCD display panel.

STORAGE DEVICE

- Industry standard 2.5" 40GB/60GB/80GB 9.5mm height hard disk drive.
- ODD Device: Combo drive.
- Optional USB FDD drive.

KEYBOARD

- 86 full keys, including 2 Windows keys, and embedded numerical keypads.

CONNECTIVITY and EXPANSION

- Four USB ports.
- One IEEE1394 connector.
- One VGA port.
- One S-Video port (for M620DC Series only).
- One SPDIF-Out headphone jack.
- One microphone jack.
- One RJ11 Fax/Modem connector.
- One RJ45 LAN connector.
- One DC-In Jack.
- One type II PCMCIA slot.
- One 3-in-1 slot for Multi-Media Card/Memory Stick/SD Card.

POWER

- One battery slot to support one Lithium Ion (Li-Ion) battery pack.
- Offline battery charging time is around 2.5 hours for Li-Ion battery pack.
- Full range 100 to 240V auto-switch AC adapter; 100Vac input voltage no load power consumption < or = 1W.

PHYSICAL

Weight (TFT color, 15")	: 2.25kg, including one battery pack.
Width/Depth/Height	: 328mm/268mm/26.2mm.

Note: Weight and height might change due to different configurations and models.

ENVIRONMENT

Operating Temperature	: 10°C to 35°C.
Non-Operating Temperature	: -20°C to 60°C.
Humidity	: 20% to 80% non-condensing.
Shock	: 5G operating, 60G non-operating.
Vibration	: 3-200Hz @ 1.0G operating.
	: 3-200Hz @ 1.5G non-operating.

Warning: Don't expose your **notebook** to excessive heat or coldness (frost). Don't drop, spill fluids or open the exterior of the case. This can damage the **notebook** and void the warranty.

POWER MANAGEMENT

Advanced **C**onfiguration **P**ower **I**nterface (**ACPI**) 2.0.

OPERATING SYSTEMS

Windows® 2000. Windows® XP.

OPTIONS

- Two DDR S.O. DIMM memory sockets for system memory upgrade. Total maximum memory: 2048MB (2GB).
- ODD Device: Combo Drive.
- Optional USB FDD Drive.

D.2 Special Features

Memory Expansion

System Memory is easily upgraded to 2048MB. For more information, refer to *Chapter 4*.

Hot Keys

Please refer to *Chapter 2.3* for all available **Hot Key** functions; such as Brightness Adjustment, LCD/CRT Switch and others.

TouchPad

The TouchPad is conveniently located, making it easily accessible to both left-handed and right-handed people. There are two buttons at the bottom of the TouchPad, emulating the right and left mouse buttons. Use your finger as a mouse pointer to draw lines or point to an item as needed. Double click (tap) on the TouchPad to simulate mouse button clicking.

Note: You are advised to clean your TouchPad with a dry cloth in a regular basis. Grease, dirt, and moisture on the TouchPad can lead to abnormal mouse operations.

PCMCIA

PCMCIA card provides many powerful features for your **notebook**. Many cards are available today such as: Fax/Modems, Wireless LAN Card, Network Adapter, and SCSI Adapters. The PCMCIA unit in your **notebook** provides connections to one type II (5mm height) PCMCIA card.

SOUND SYSTEM

This internal sound system provides you 16-bit CD-quality stereo sound. The **notebook** includes built-in stereo speakers, microphone (mono), and headphone functions.